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(54) **DISPOSABLE BIB**

(76) Inventors: **Kathryn M. Loewer**, 4219 Henry Bieber Rd., Eunice, LA (US) 70535; **Sarah Ann Kothmann**, 2213 Goldenrod, Forth Worth, TX (US) 76111

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(52) **U.S. Cl.** **2/49.2**; 2/52
(58) **Field of Search** 2/49.1, 49.2, 49.3, 2/49.4, 49.5, 50, 51, 52, 48, 247, 46

(56) **References Cited**

U.S. PATENT DOCUMENTS

D. 357,568		4/1995	Schottland	D2/861
D. 361,878		9/1995	Chadwell	D2/861
D. 364,032		11/1995	Caley	D2/861
D. 366,556		1/1996	Wilson	D2/861
3,257,677		6/1966	Batchelder et al.	12/142
3,416,157		12/1968	Marder et al.	2/49
3,916,477		11/1975	Thompson	2/46
3,979,776		9/1976	Gruenwald	2/49
3,995,321		12/1976	Johnson	2/49
4,210,144		7/1980	Sarge, III et al.	128/287
4,288,877	*	9/1981	Klepfer	2/48
4,330,888	*	5/1982	Klepfer	2/48
4,423,523	*	1/1984	Bodner et al.	2/49.4
4,495,658		1/1985	Moret et al.	2/49
4,523,333		6/1985	Spangler	2/49
4,620,323		11/1986	Tepper	2/48
4,622,698	*	11/1986	Heyman et al.	2/48
5,414,903		5/1995	Porteous	24/9
5,432,952		7/1995	Tate	2/49.4
5,459,877		10/1995	Roberti	2/104
5,476,697	*	12/1995	Bellander	2/49.4
5,490,289		2/1996	Lehrer	2/49.2
5,491,844		2/1996	Kehl et al.	2/49.1
5,570,474		11/1996	Berry et al.	2/104
5,669,770	*	9/1997	Fisher et al.	2/49.1
5,864,878	*	2/1999	Mashrick	2/46
5,881,382	*	3/1999	Bernard et al.	2/49.1
6,000,056	*	12/1999	Brady et al.	2/49.2
6,079,048	*	6/2000	Campbell	2/49.1

FOREIGN PATENT DOCUMENTS

2616046	*	12/1988	(FR)	2/49.4
1095397	*	12/1967	(GB)	2/49.1
2212710	*	8/1989	(GB)	2/49.4
87/06105	*	10/1987	(WO)	2/49.4

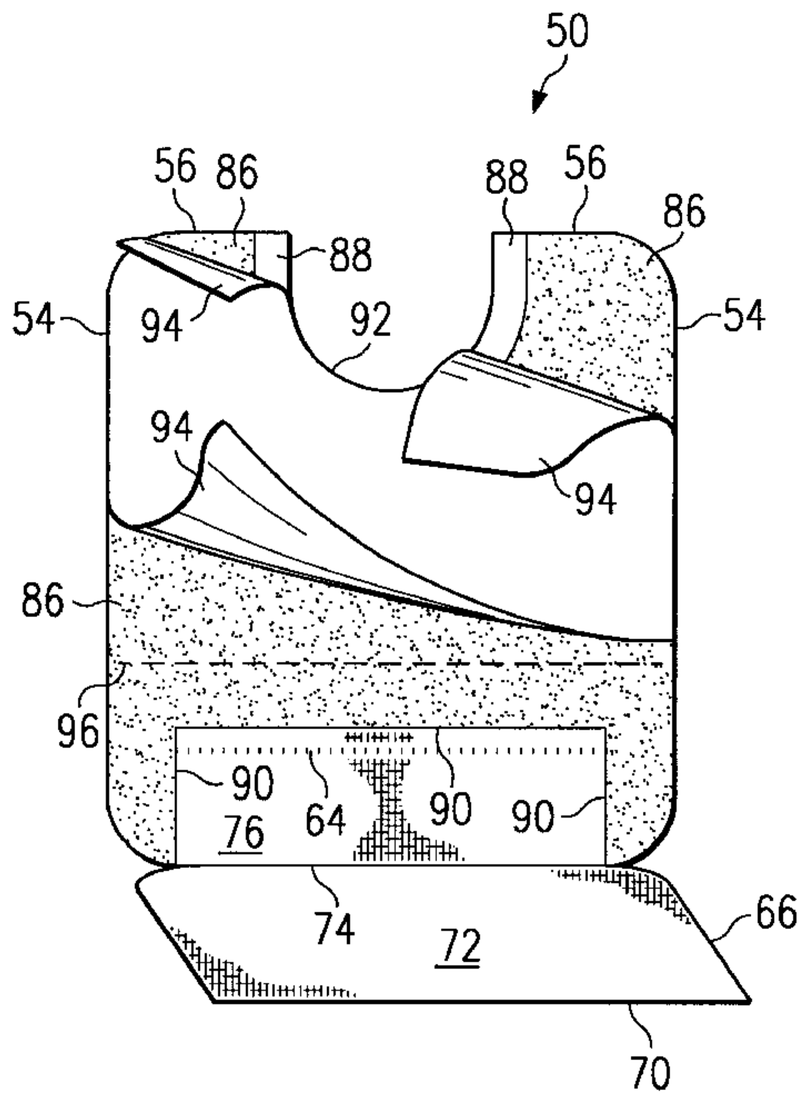
* cited by examiner

Primary Examiner—Amy B. Vanatta
(74) *Attorney, Agent, or Firm*—Stephen S. Mosher

(57) **ABSTRACT**

A disposable bib of absorbent sheet material is disclosed having a neck cut-out in the upper end and a pressure sensitive adhesive disposed over substantially the entire back surface of the bib except for an un-coated border surrounding the neck cut-out. the bib is securable to the wearer at both upper and lower ends and left and right sides. A peel-off backing may be used to preserve the adhesive until use. The adhesive may be releasable from the wearer without leaving a residue. The bib in other embodiments may include a pouch or a moisture barrier.

27 Claims, 3 Drawing Sheets



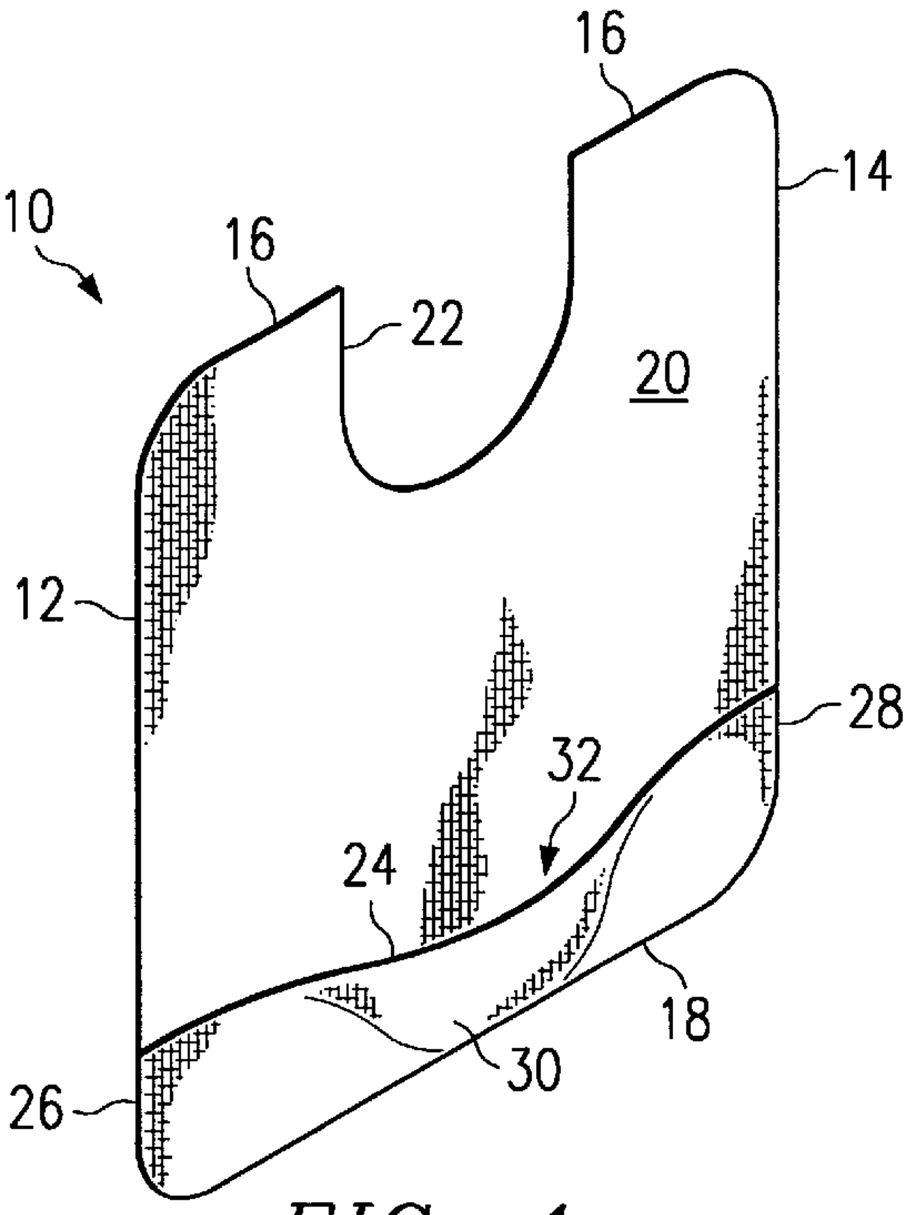


FIG. 1a

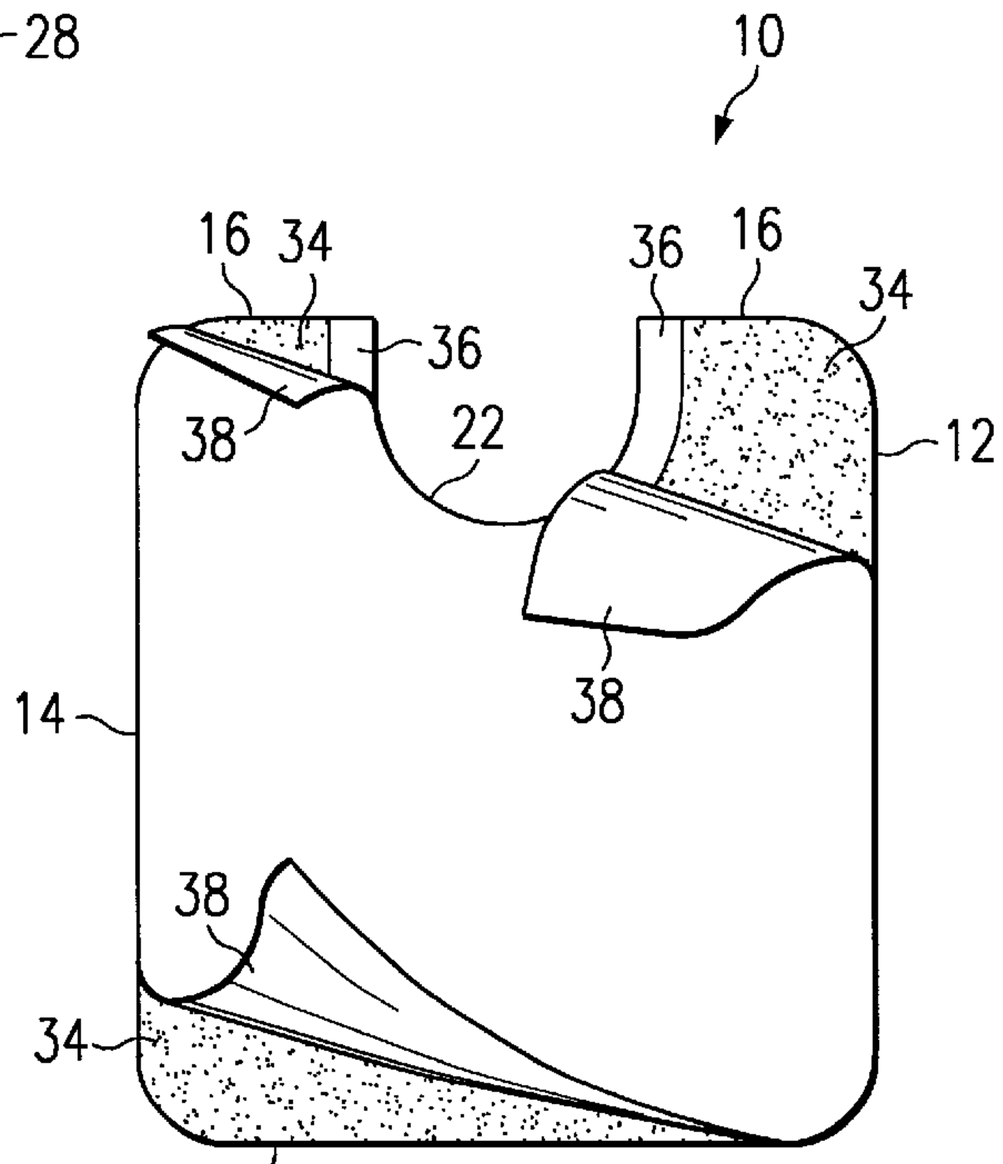


FIG. 1b

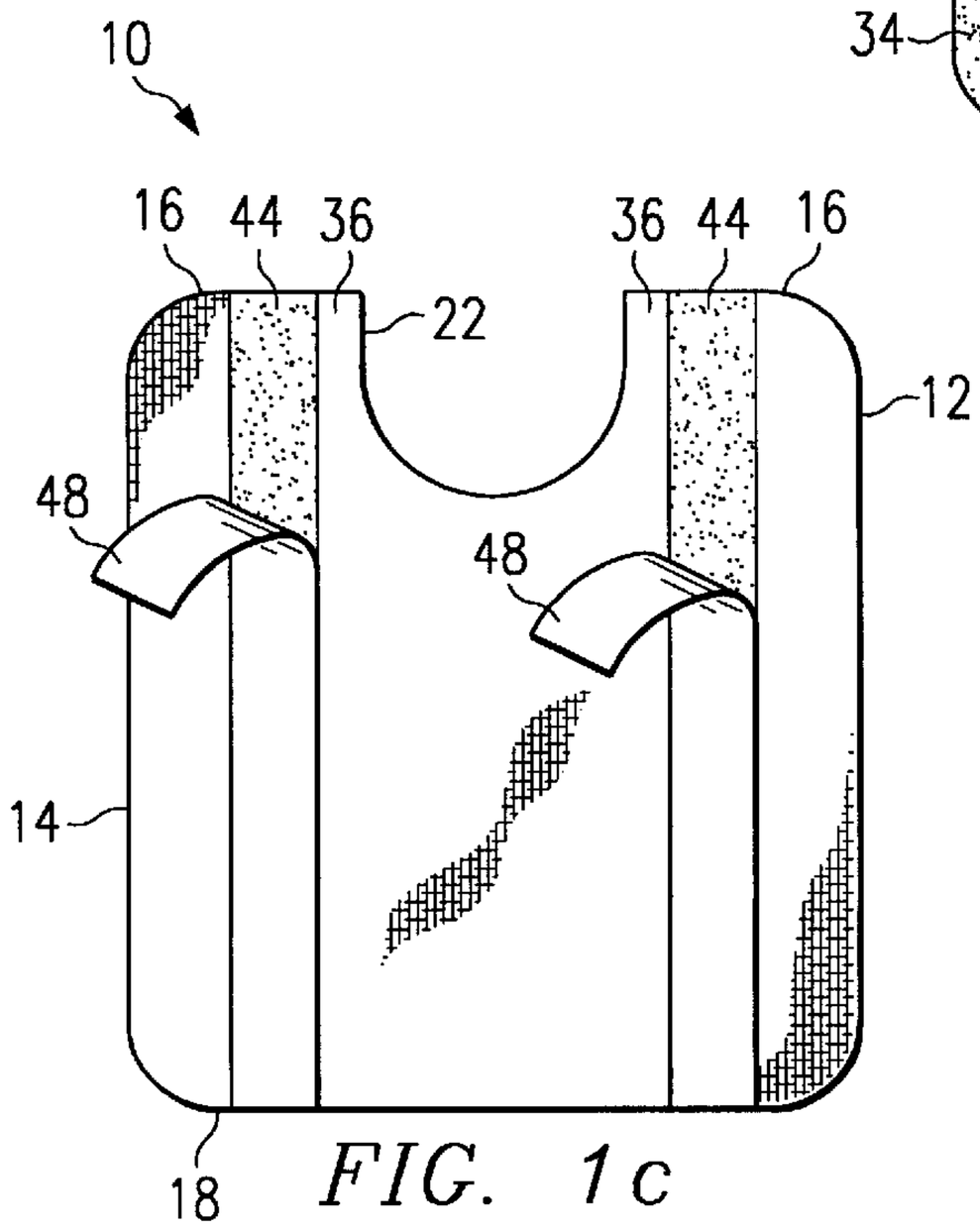


FIG. 1c

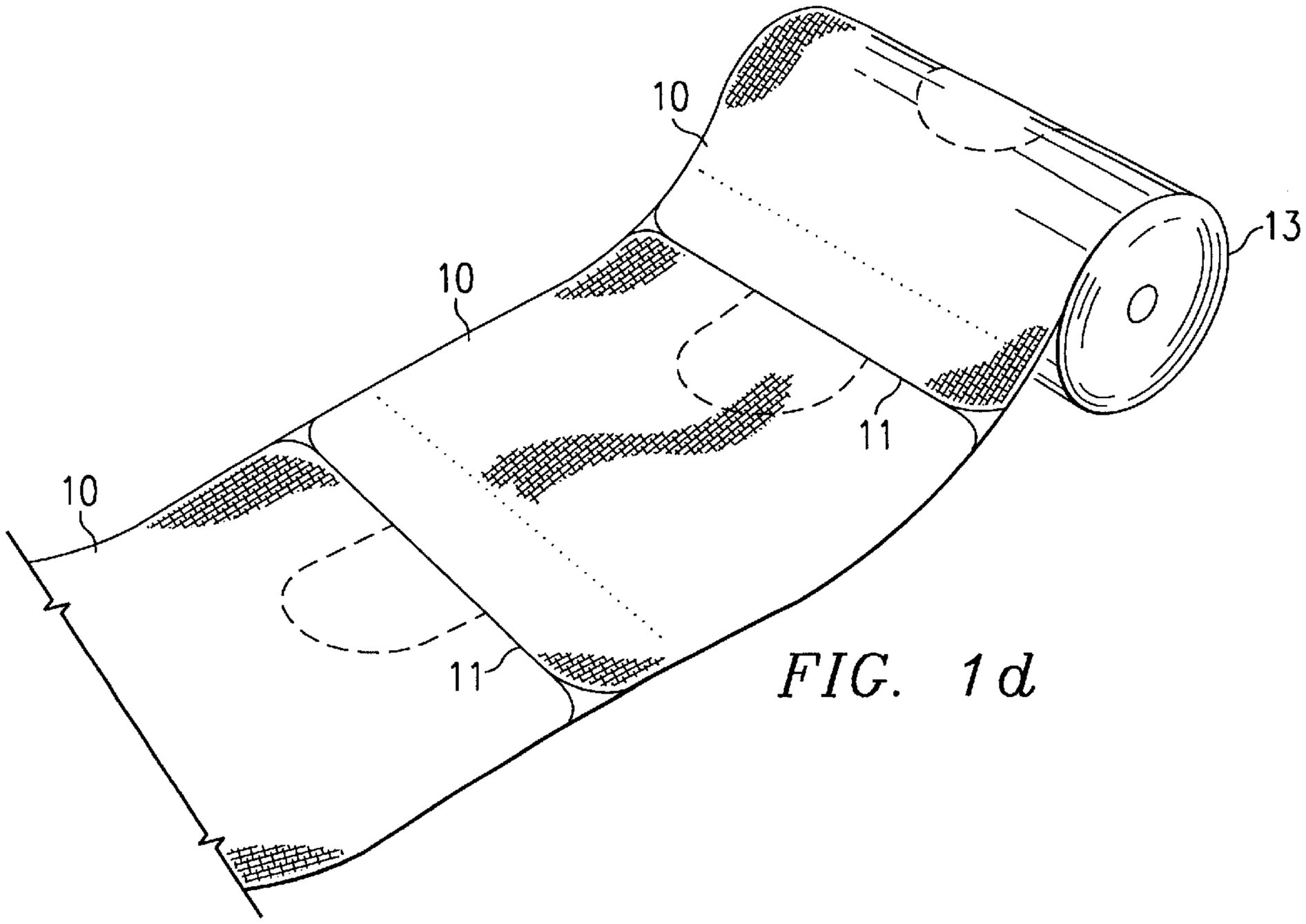


FIG. 1d

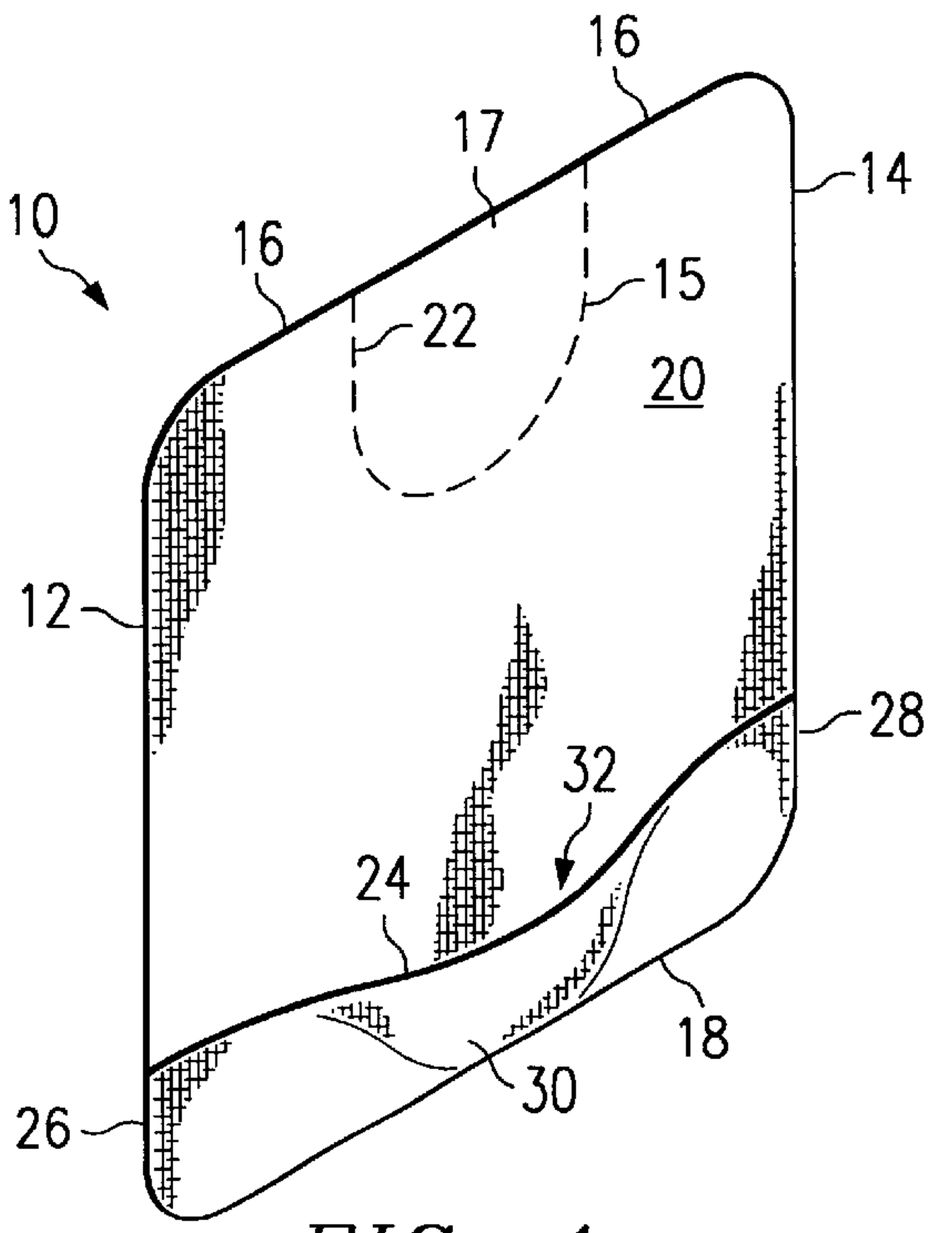


FIG. 1e

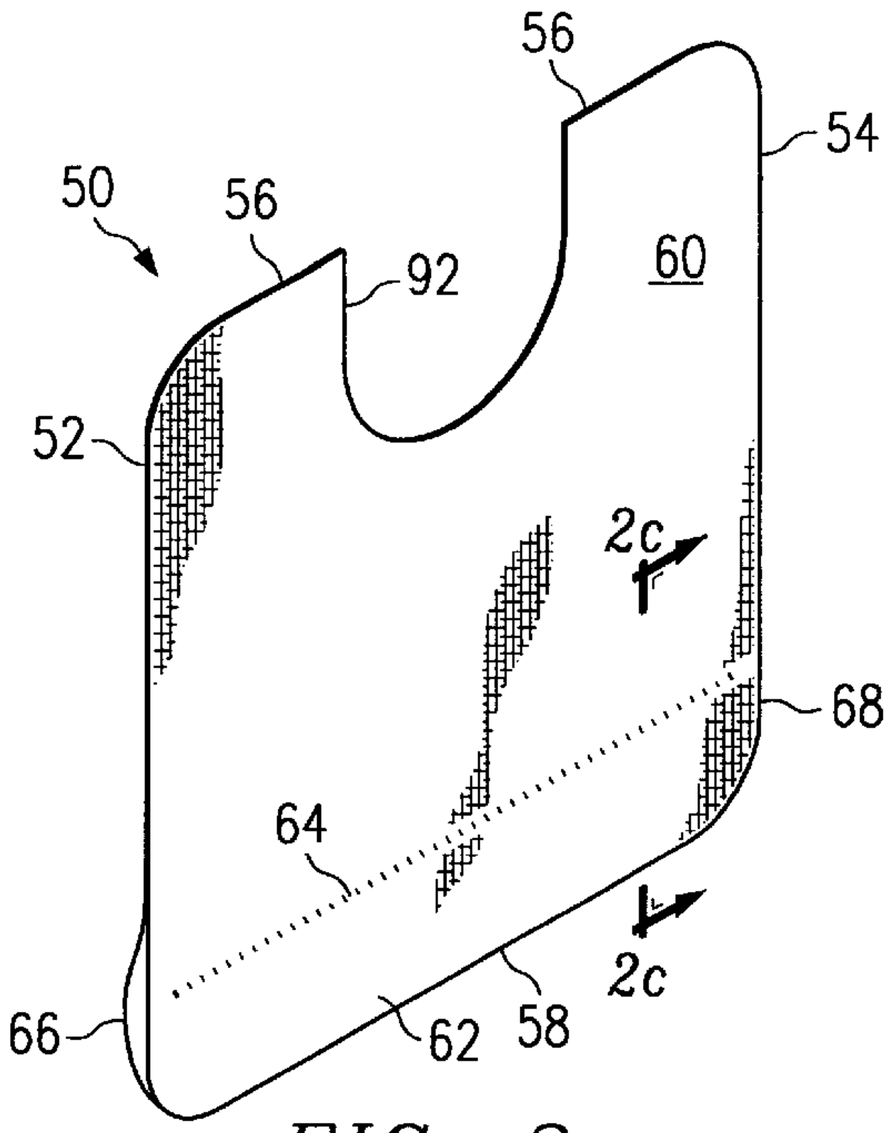


FIG. 2a

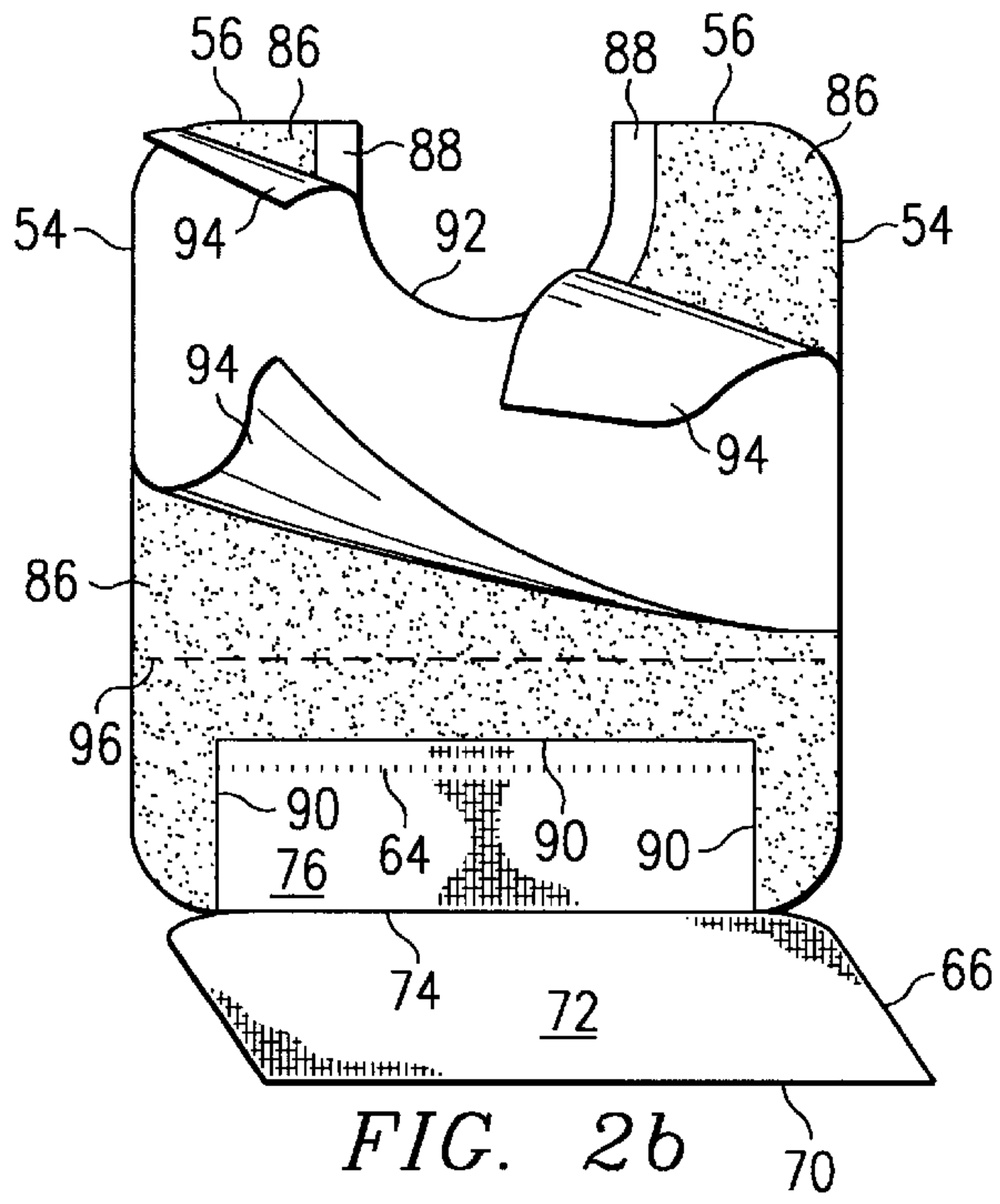


FIG. 2b

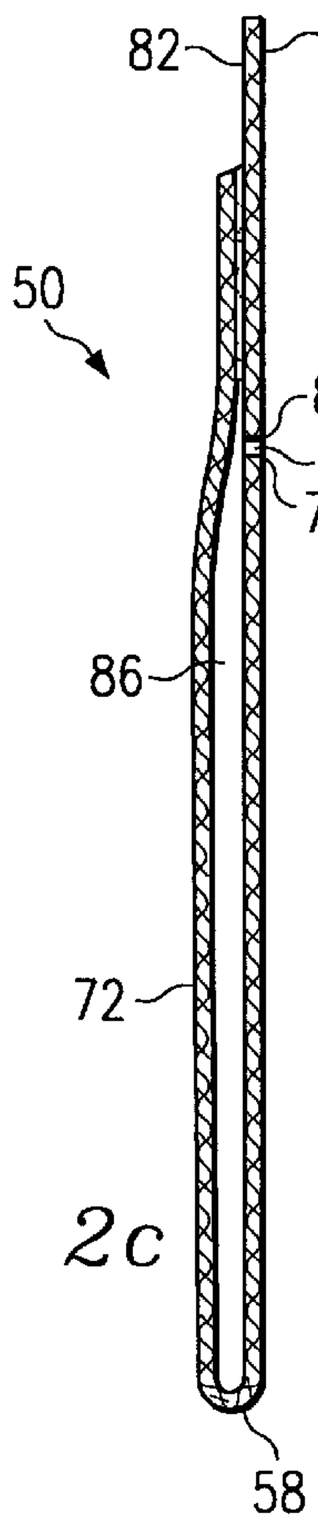


FIG. 2c

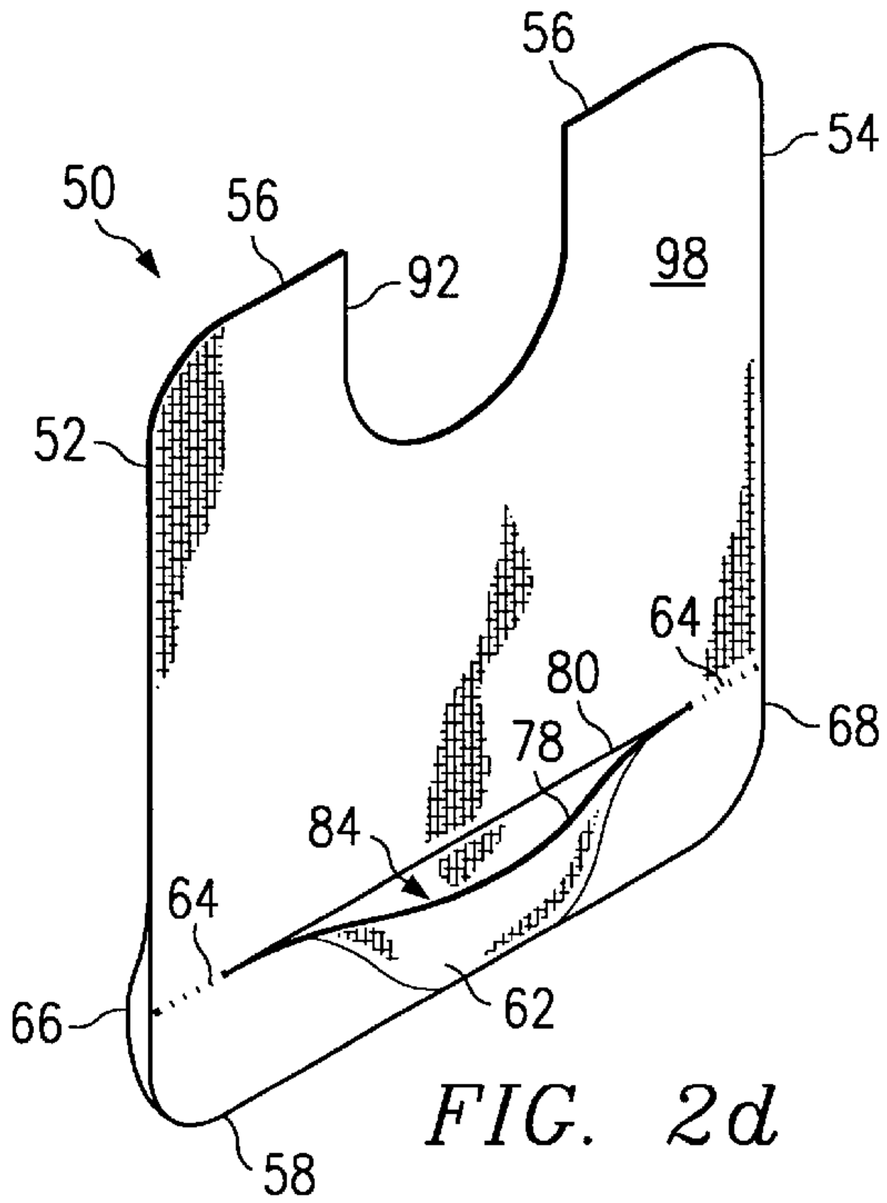


FIG. 2d

DISPOSABLE BIB

BACKGROUND OF THE INVENTION

Disposable bibs are well known in the art. Many such bibs, intended to be used once and discarded, are adapted to use by infants during feeding, by patients of dentists or other health practitioners, by patrons of beauty salons or diners in a restaurant, persons handling messy or staining materials and the like. A variety of means are employed to secure the bib to the wearer including tie cords, hook and loop fasteners, buttons, leads with clips on each end and, in some examples, adhesive-backed straps or tabs.

For example, the bib disclosed in U.S. Pat. No. 3,416,157, issued to Marder, et al., secures the neck opening of the bib around the wearer's neck but does not secure the rest of the bib to the wearer's person so that it can resist pulling on the bib material and exposing the clothing intended to be protected, particularly near the shoulders. Gruenwald, U.S. Pat. No. 3,979,776, discloses a bib which uses adhesive straps to secure the bib to the wearer's shoulders. It also permits exposure of the protected area, particularly around the neck if the wearer moves or pulls at the bib. In general, bibs secured only from the top leave the rest of the bib unsecured and thus, most of the functional portion of the bib is readily pulled to one side or the other by the wearer's movements. Johnson, in U.S. Pat. No. 3,995,321, discloses a disposable bib having a food catching pocket which is held open by adhesive tabs secured to a supporting surface such as a table and an adhesive tab to secure the bib's neck closure. While the lower end of the bib may be held in place by attachment to the table, the adhesive tabs do not permit the bib to be secured to the wearer's person so that the bib remains in place when the wearer moves or shifts position. Kehl, in U.S. Pat. No. 5,491,844, discloses a disposable bib for use by dental patients having a strip of pressure sensitive adhesive across the top edge of the back of the bib but lacks means to secure the rest of the bib to the wearer.

There is thus a need for a disposable bib adapted to the numerous uses noted above that has the ability to fully protect the wearer despite pulling at the bib or movement of the wearer. In particular, both a good seal of the bib, near the neck, and secure attachment to the wearer at the lower portion of the bib is needed to maintain the bib in position, to keep it disposed against the wearer substantially over its entire surface and to fully utilize the protective properties of the bib surface such as its absorbency, liquid repellence and the like. Moreover, an improved disposable bib must be easy to use.

SUMMARY OF THE INVENTION

The foregoing problems are solved and an advance in the art is realized by the present invention wherein a disposable bib of absorbent sheet material having a neck cut-out employs a pressure sensitive adhesive disposed over substantially the entire back surface of the bib except for an un-coated border surrounding the neck cut-out. A peel-off backing may be used to preserve the adhesive until ready for use. The adhesive is releaseable from the wearer without leaving an adhesive residue on the wearer when the bib is removed after use. In other embodiments, the bib may also include a moisture barrier or a pouch across the lower end of the bib for catching spills or debris.

In another embodiment of the present invention, the pressure sensitive adhesive is applied in strips running from top to bottom near the sides of the back side of the bib to fully attach the bib to the wearer in applications, for

example, where a close seal entirely around the neck cut-out is not important or as a means of reducing manufacturing cost. In other embodiments, the pouch may be formed by folding an extension of the lower end of the bib material against the front or back surface of the bib and secured to the sides of the bib. When the pouch is formed by an extension flap folded against the back side of the bib, the top edge or lip of the pouch is formed by a slit which may be a line of perforations in the front or main panel of the bib. The top edge or lip of the pouch may then be pulled away from the bib to provide a basin for spills and debris.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following description taken in conjunction with the accompanying Drawings in which:

FIG. **1***a* illustrates a perspective view of the front side of a disposable bib of the present invention;

FIG. **1***b* illustrates a back side view of the disposable bib shown in FIG. **1***a;*

FIG. **1***c* illustrates a back side view of an alternative embodiment of the disposable bib shown in FIG. **1***a;*

FIG. **1***d* illustrates a perspective view of a roll of disposable bibs.

FIG. **1***e* illustrates a front perspective view of an alternative embodiment of the disposable bib of FIG. **1***a.*

FIG. **2***a* illustrates a front perspective view of an alternative embodiment of the disposable bib of FIG. **1***a;*

FIG. **2***b* illustrates a back side view of the disposable bib shown in FIG. **2***a;*

FIG. **2***c* illustrates a sectional view of the lower portion of the disposable bib shown in FIG. **2***a;* and

FIG. **2***d* illustrates a perspective view of the disposable bib of FIG. **2***a* showing the pouch in an open position.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. **1***a,* there is illustrated a perspective view of the front side **20** of a disposable bib **10** of the present invention. The bib **10** is constructed of absorbent sheet material having a first side **12** and a second side **14**, an upper end **16** and a lower end **18**, front side **20** and a back side (not shown in FIG. **1***a*.) A substantially U-shaped or substantially rounded neck-sized cutout **22** is provided in the upper end **16** approximately midway between the first side **12** and the second side **14**. In an alternative embodiment illustrated in FIG. **1***e,* the neck-sized cut-out **22** may be defined by a line of perforations **15** wherein the portion to be cut-out **17** may be retained with the bib **10** and torn away from the bib **10** for use as a small accessory wipe by the wearer.

Transversely disposed across the lower end **18** of the bib **10** shown in FIG. **1***a* is a pouch **30** formed of absorbent sheet material such as that used to make the bib **10** or it may be formed of non-absorbent sheet material having properties suitable for providing a pouch. The pouch **30** is attached to the bib **10** along lower end **18** and at first lower side **26** and second lower side **28** of the bib **10**. The pouch **30** in one embodiment may be conveniently formed of an extension of the lower end **18** of the disposable bib **10** which is folded upward from the lower end **18** and against the front side **20** of the bib and secured at its ends to the first lower side **26** and second lower side **28** of the bib **10**. The upper edge or lip **24** of the pouch **30** may be pulled away from the front

side **20** of the bib **10** to form a basin **32** for catching spills and debris deposited on the front side **20** of the bib **10**. The basin **32** may also provides a temporary storage place for the accessory wipe mentioned hereinabove.

The absorbent sheet material used to construct the bib **10** may comprise a single layer, e.g., such as used in household paper towels, or it may be constructed of two or more layers to provide combined properties of individual layers into a higher performance material. For example, a thin film of material (not shown) impervious to liquids may be disposed against and immediately behind the absorbent sheet layer over substantially the back side of the absorbent layer to form a compound absorbent sheet for use in the disposable bib **10** of the present invention. This liquid-impervious layer thus may act to prevent penetration of moisture or liquid stains to the person or clothing of the wearer while the absorbent layer catches and retains the spilled debris falling on the front side of the bib **10**. Alternatively, the absorbent material used in constructing thin disposable diapers would also be suitable for the disposable bib **10** in some applications where high absorption of liquids is needed.

Referring now to FIG. **1***b,* there is illustrated a back side view of a preferred embodiment of the disposable bib **10** of the present invention as shown in FIG. **1***a.* The disposable bib **10** is shown having a first side **12** and a second side **14**, an upper end **16** and a lower end **18**, and the neck-sized cut-out **22** in the upper end **16**. Further in FIG. **1***b* is illustrated a pressure sensitive adhesive coating **34** covering substantially all of the back side surface of the disposable bib **10** except for the region **36** of the back side proximately surrounding the neck-sized cut-out **22**. The purpose of this un-coated region **36** is to provide improved comfort for the wearer wherein the un-coated region **36** is more likely to rest comfortably against the wearer's bare skin around the neck than an adhesive-coated portion of the bib. With the pressure sensitive adhesive coating **34** applied near the neck-sized cut-out, for example leaving un-coated region **36** at least ¼ inch wide, the bib **10** is securable to the wearer over substantially all its area. The pressure sensitive adhesive **34** used to coat the back side of the bib **10** should be formulated to have a low tack characteristic so that it is readily releasable from the wearer's person following use of the bib **10** without leaving adhesive residue yet has sufficient adhesiveness to secure the lightweight disposable bib **10** during use.

Continuing with FIG. **1***b,* a peel-off backing **38** is shown in a partially peeled away position to expose the pressure sensitive adhesive coating **34**. The peel-off backing **38** may cover the entire back side of the bib **10** or only the region covered by the adhesive coating **34**. The peel-off backing **38**, which preserves the adhesive coating **34** until the bib **10** is prepared for use, is advantageously also made of disposable material.

Referring now to FIG. **1***c,* there is illustrated a back side view of an alternative embodiment of the disposable bib **10** of the present invention shown in FIG. **1***a.* The disposable bib **10** is shown having a first side **12** and a second side **14**, an upper end **16** and a lower end **18**, and the neck-sized cut-out **22** in the upper end **16**. Further in FIG. **1***c* is illustrated the coating of a pressure sensitive adhesive in two longitudinal strips **44** and **44'** disposed on each first side **12** and second side **14** of the back side of the bib **10** and extending from the upper end **16** to the lower end **18**. Each longitudinal strip **44** and **44'** is spaced between the neck-sized cut-out **22** and the proximate first side **12** or second side **14** respectively. As in the embodiment shown in FIG. **1***b* a region **36** surrounding either side of the neck-sized cut-out **22** by a width of at least ¼ inch is left un-coated to provide improved comfort for the wearer. The pressure sensitive adhesive strips **44** and **44'** are preserved until use by peel-off backing strips **48** and **48'**. The disposition of the pressure sensitive adhesive coating in this manner conforms to the principles of the present invention by securing both first side **12** and second side **14** and both upper end **16** and lower end **18** to the wearer yet uses substantially less adhesive and is therefore manufacturable at a lower cost.

Referring now to FIG. **1***d,* a plurality of bibs **10** may be detachably connected end-to end and separable along a line of detachment **11** therebetween in a continuous ribbon wound on a roll **13** until use.

Referring now to FIG. **2***a,* there is illustrated a front perspective of another alternate embodiment of the disposable bib of FIG. **1***a.* The disposable bib **50** is constructed of absorbent sheet material having a first side **52** and a second side **54**, an upper end **56** and a lower end **58**, a front side **60** and a back side (not shown in FIG. **2***a*). A substantially U-shaped or substantially rounded neck-sized cut-out **92** is provided in the upper end **56** approximately midway between the first side **52** and the second side **54**. In an alternative embodiment, the neck-sized cut-out **92** may be defined by a line of perforations (not shown) wherein the portion to be cut out (also not shown) may be retained with the bib **50** and torn away from the bib **50** for use as a small accessory wipe by the wearer similar to FIG. **1***e.*

Transversely disposed across the lower end **58** of the bib **50** shown in FIG. **2***a* is a transverse slit **64**, which may advantageously be a line of perforations extending nearly the full width of the bib **50**, between the first side **52** and the second side **54**, but short enough to leave an unslit margin with both first side **52** and second side **54**. The transverse slit **64** is provided as the lip of a pouch **62** to be described hereinbelow. It will also be noted that FIG. **2***a* identifies a first end **66** and a second end **68** of the pouch **62**. Also shown is a sectional line **2***c*–**2***c'* to identify the view illustrated in FIG. **2***c* to be described hereinbelow.

Referring now to FIG. **2***b,* there is illustrated a back side view of the disposable bib **50** shown in FIG. **2***a*. The disposable bib **50** is shown having a first side **52** and a second side **54**, an upper end **56** and the neck-sized cut-out **92** in the upper end **56**, and the transverse slit **64** as viewed from the back side of the bib **50**. Further in FIG. **2***b* is illustrated a pressure sensitive adhesive coating **86** covering substantially all of the back side of the disposable bib **50** except for the region **88** of the back side proximately surrounding the neck-sized cut-out **92** (in the same manner and for the same purpose as for the bib **10** of FIG. **1**) and except for the region **76** bounded by border **90** and line **74**. A peel-off backing **94**, which until peeled away from the bib **50** covers the adhesive-coated region above dashed line **96**, is shown in a partially peeled-away position to expose the pressure sensitive adhesive coating **86**.

Further in FIG. **2***b* is shown an extension **72** of the lower end (**58** in FIG. **2***a*) of the bib **50** having a transverse edge **70**. The adhesive coating **86** adjacent to the border **90**, below the dashed line **96** in FIG. **2***b,* is left exposed to secure the edges of extension **72** to be used to form pouch **62** as will be described. It will be appreciated from inspection of FIG. **2***b* that the portion of the adhesive coating **86** adjacent to the border **90** below dashed line **96** is shaped like an inverted U and replicates the outline of the extension **72** of the lower end **58** (See FIG. **2***a*) of bib **50**. Thus, when the extension **72** is folded during manufacture toward the back side **82** of bib **50** along line **74** and the border (first side **66**, second side **68** and transverse edge **70**) of extension **72** is pressed against the adhesive coating **86** therealong, an enclosed space, between the bib **50** and extension **72**, accessible through transverse slit **64**, is formed to provide pouch **62** when the transverse slit **64** is opened. Transverse slit **64** is positioned just below the portion of the adhesive coating **86** that secures the transverse edge of extension **72** to bib **50** so that when opened to form a pouch **62**, the depth of the pouch **62** is maximized.

Referring now to FIG. **2***c,* there is illustrated a sectional view (line **2***c*–**2***c* in FIG. **2***a*) of the lower end of disposable bib **50** showing the extension **72** folded against the back side **82** of bib **50** and secured by the adhesive coating **86** to form the space (not shown) between extension **72** and the back side **82** of bib **50** that may be used to provide a pouch accessible through transverse slit **64** as will be described. Reference numeral **98** indicates the front side of bib **50** in FIG. **2***c.* Transverse slit **64** when opened as shown in FIG. **2***d,* a front perspective view of disposable bib **50**, forms an upper lip **80** in the front side **98** of bib **50** and a lower lip **78** which is pulled away from the bib **50** to create the basin **84** of the pouch **62**. The basin **84** of pouch **62** is thereby formed to catch spills and debris falling on the front side **98** of bib **50**.

The embodiments of the present invention shown in the FIGURES herein and the accompanying descriptions are intended to be illustrative of the principle features of the present inventions and not limitations thereof Thus, although the preferred embodiment has been described in detail, it should be understood that various changes, substitutions and alterations can be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. A disposable bib for human use, comprising:

an absorbent sheet having first and second sides, upper and lower ends and front and back sides;

a neck-sized cut-out in said upper end of said sheet, positioned approximately midway between said first and second sides and extending toward said lower end;

a pressure sensitive adhesive coating on the back side of said bib wherein the back side of said bib proximately surrounding the border of said cut-out is un-coated by said pressure sensitive adhesive; and

a pouch disposed in a closed configuration substantially across the lower end of the front side of said bib, said pouch having an upper edge which may be pulled away from the front side of said bib to form a basin to catch spills and debris, wherein said pouch comprises an upwardly folded extension of the lower end of said absorbent sheet and wherein the ends of said upwardly folded extension, said extension folded against said bib front side, are secured to the proximate edges of the first and second sides of said bib.

2. The bib of claim **1**, comprising a peel-off backing covering said pressure sensitive adhesive coating until ready for use.

3. The bib of claim **1**, wherein the un-coated portion of the backside of the bib includes an area within at least one-quarter inch of said cut-out.

4. The bib of claim **2**, wherein said pressure sensitive adhesive, upon removal of said backing, permits adhering said bib to a wearer's person and removing said bib wherein no adhesive remains on said wearer's person.

5. The bib of claim **1**, comprising a moisture barrier layer disposed between said absorbent sheet and said pressure sensitive adhesive.

6. The bib of claim **1**, comprising a pressure sensitive adhesive having a low tack characteristic to releaseably adhere to said wearer's person.

7. The bib of claim **1**, wherein said pressure sensitive adhesive coating is disposed in at least two longitudinal strips extending between said upper and lower ends of the bib and spaced laterally between the neck-sized cut-out and a corresponding first or second side of the bib.

8. The bib of claim **1**, wherein a plurality of said bibs are detachably connected end-to-end and separable along a line of detachment therebetween, in a continuous ribbon wound in a roll until use.

9. The bib of claim **8**, wherein each bib is dispensed from said roll by unwinding and tearing off the bib at said line of detachment.

10. The bib of claim **1**, wherein said neck-sized cut-out is defined by a line of perforations for tear-out removal of the portion that is cut out by the user prior to use.

11. The bib of claim **10**, wherein the removed cut-out portion is useable as a wipe.

12. The bib of claim **1**, wherein said neck-sized cut-out forms a substantially round opening.

13. The bib of claim **1**, wherein said neck-sized cut-out forms a substantially U-shaped opening.

14. A disposable bib for human use, comprising:

an absorbent sheet having first and second sides, upper and lower ends and front and back sides;

a neck-sized cut-out in said upper end of said sheet, positioned approximately midway between said first and second sides and extending toward said lower end:

a pressure sensitive adhesive coating on the back side of said bib wherein the back side of said bib proximately surrounding the border of said cut-out is un-coated by said pressure sensitive adhesive; and

a pouch disposed in a closed configuration substantially across the lower end of the front side of said bib, said pouch having an upper edge which may be pulled away from the front side of said bib to form a basin to catch spills and debris, wherein said pouch comprises an upwardly folded extension of the lower end of said absorbent sheet and wherein the ends of said upwardly folded extension, said extension folded against said bib back side, are secured to the proximate edges of the first and second sides of said bib, wherein further the uppermost edge of said extension is secured to said bib back-side and wherein the lower edge of a traverse slit in said bib front side, said transverse slit positioned just below the location where said upper most edge of said extension is secured to said bib back side, may be pulled away from the front side of said bib to form said basin.

15. The bib of claim **14**, wherein said transverse slit is a line of perforation to permit separation of the bib material therealong.

16. The bib of claim **14**, comprising a peel-off backing covering said pressure sensitive adhesive coating until ready for use.

17. The bib of claim **14**, wherein the un-coated portion of the backside of the bib includes an area within at least one-quarter inch of said cut-out.

18. The bib of claim **14**, wherein said pressure sensitive adhesive, upon removal of said backing, permits adhering said bib to a wearer's person and removing said bib wherein no adhesive remains on said wearer's person.

19. The bib of claim **14**, wherein a moisture barrier layer disposed between said absorbent sheet and said pressure sensitive adhesive.

20. The bib of claim **14**, wherein a pressure sensitive adhesive having a low tack characteristic to releaseably adhere to said wearer's person.

21. The bib of claim **14**, wherein said pressure sensitive adhesive coating is disposed in at least two longitudinal strips extending between said upper and lower ends of the bib and spaced laterally between the neck-sized cut-out and a corresponding first or second side of the bib.

22. The bib of claim **14**, wherein a plurality of said bibs are detachably connected end-to-end and separable along a line of detachment therebetween, in a continuous ribbon wound in a roll until use.

23. The bib of claim **22**, wherein each bib is dispensed from said roll by unwinding and tearing off the bib at said line of detachment.

24. The bib of claim **14**, wherein said neck-sized cut-out is defined by a line of perforations for tear-out removal of the portion that is cut out by the user prior to use.

25. The bib of claim **24**, wherein the removed cut-out portion is useable as a wipe.

26. The bib of claim **14**, wherein said neck-sized cut-out forms a substantially round opening.

27. The bib of claim **14**, wherein said neck-sized cut-out forms a substantially U-shaped opening.

* * * * *